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FOREST RESEARCH NOTES

NORTHEASTERN FOREST EXPERIMENT STATION

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CHAFF SEEDING DOES NOT INHIBIT TREE REPRODUCTION

Seeding of grass and other herbaceous cover is a recognized method of reducing soil washing on old logging roads, trails, decks, and other disturbed areas. It is done to protect the quality of water supplies and, in the case of roads that are to be used again, to preserve them for use during the next logging operation. The successful use of chaff (from local harvest operations) to do this on the Fernow Experimental Forest near Parsons, W. Va. has been reported.[1]

A question has been raised by foresters and landowners who wish to stabilize the soil on disturbed areas where no further disturbance is anticipated. The question posed is this:

> Can such areas be reseeded to herbaceous cover for quick soil stabilization without seriously retarding natural tree reproduction?

Such areas may be skid trails, poorly located logging roads and decks, and even strip-mined areas. Here the immediate aim may be quicker soil stabilization than can be obtained from either planted trees or natural reproduction, but the long-time aim is to obtain forest growth.

An answer to the question as it pertains to chaff-seeding on logging roads was obtained by examination of the experimental plots involved in the 1953 chaff-seeding on the

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[1] Trimble, G. R., Jr. and Weitzman, Sidney. Chaff Seeding--One Answer to Soil Washing on Logging Roads. W. Va. Conserv. 19 (12): 12-13, illus. 1956.

Table 1.--Cover, including tree seedlings, on logging roads after 5 growing seasons

Treatment	Plots	Total vegetation density	Seedlings* per plot (32 sq.ft.)	Average** height of seedlings	Plots without seedlings	Most numerous species	
	No.	Percent cover	No.	Feet	No.		Percent
Chaff seeded; lime & fertilizer applied	10	86	6.3	1.0	1	Sugar maple White ash Yellow-poplar	78 17 5
Chaff seeded	10	82	4.0	.9	1	Sugar maple White ash Yellow-poplar Pin cherry	67 15 15 3
Untreated	5	76	2.2	1.0	3	Sugar maple Yellow-poplar White ash	37 37 26

*Seedlings 6 inches and taller.
**Average based on plots that contained seedlings.

Fernow Experimental Forest. Examination was made after 5 growing seasons.

Three series of plots, each representing a different treatment 5 years ago, were examined: (1) Ten plots on which chaff had been scattered at a rate of 28 bushels per acre, accompanied by liming at the rate of 1 ton per acre and fertilization (5-10-5) at the rate of 400 pounds per acre; (2) ten plots on which chaff had been scattered without lime and fertilizer; and (3) five plots that had no treatment--the bare logging road was left to revegetate naturally. The results are shown in table 1.

These results indicate that the plant cover that develops after chaff-seeding on compacted areas does not hinder establishment of tree reproduction. The cover obtained--usually a mixture of broadleaf weeds with cereal and weedy grasses--does not form a continuous sod and therefore does not inhibit tree reproduction as dense tight sods of perennial grasses have been observed to do. However, the cover from the chaff-seeding does stabilize the soil surface; and by providing some small amount of mulch and shade it may also improve conditions for establishment of hardwood seedlings.

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